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How Soviets Steal U.S. High-Tech Secrets

The KGB uses blackmail, bribery and deception to plunder U.S. technology worth billions to Moscow.

In Moscow's espionage offensive against the United States, no prize is more valued than secrets of America's high technology.

Like his predecessors, Kremlin chief Mikhail Gorbachev counts on pilfered American industrial secrets to help rescue the Soviet Union from economic stagnation and to keep pace in the superpower arms race.

No fewer than 2,000 intelligence agents, smugglers and international middlemen are at work for Moscow around the globe obtaining everything from sophisticated computers to pinhead-size microchips in a no-holds-barred offensive where stakes are high, payoffs handsome and personal risks relatively small. "Gaining access to our advanced technology continues to be their top priority," says William Casey, director of the Central Intelligence Agency. "It's a big effort."

Moscow saves billions of dollars and years of military research by making use of stolen computers, semiconductor-manufacturing gear and other high-tech equipment that the West counts on to offset huge Soviet numerical advantages in weapons.

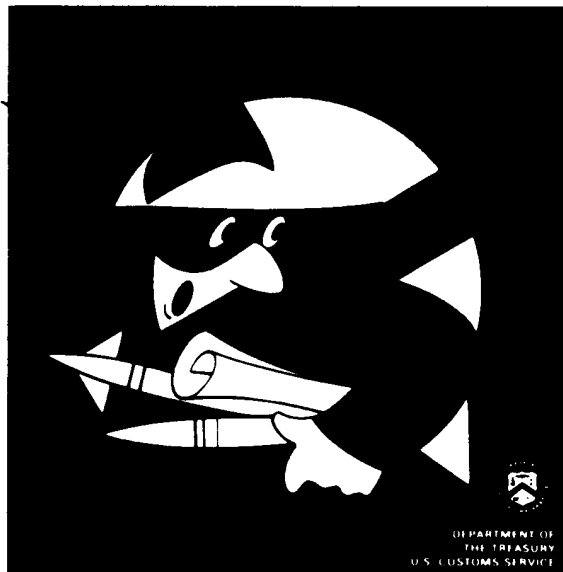
By quickly adopting U.S. technology, as it has done in at least 150 weapons systems, the Soviet Union improves its position in the arms race and boosts defense costs to American taxpayers as U.S. planners counter a heightened Soviet threat.

"The implications over the long term are drastic," says Deputy Assistant Defense Secretary Stephen Bryen, head of the Pentagon's drive to block technology losses to Moscow. "We're now faced with a very high-risk kind of situation."

"Shopping" list. The Kremlin effort is as determined, organized and brazen as it is successful. The Soviet State Committee for Science and Technology each year updates a coordinated acquisition plan as thick as a telephone book and assigns responsibility for obtaining each item to the KGB or Warsaw Pact intelligence services.

As a result of past acquisitions, sophisticated laser range finders on Soviet tanks are carbon copies of U.S. devices, precision transmission gears for heavy-lift helicopters are forged on American-made machine tools. MiG-25 Foxbat jets are equipped with look-down, shoot-down radar systems comparable to those on America's sleek F-15s. And Soviet cruise missiles incorporate the same designs—in some cases, components—as U.S. counterparts. The Atoll air-to-air missile is so closely based on blueprints of the American Sidewinder that even a single left-hand-threading screw is repeated.

The result: "Russia," warns Bryen,



U.S. Customs Service declares war on high-tech spies.

"has begun to field weapons close to equal to ours."

Moving among 11,000 companies that hold U.S. defense contracts, as well as hundreds of firms overseas that are privy to U.S. technology, KGB and other Soviet-bloc agents harvest a rich collection of secrets and hardware. Aside from the flood of illicit shipments to the Soviet bloc, legal U.S. technology exports to overseas markets last year totaled more than 60 billion dollars.

Targeted for bribery, blackmail and deception are any of the hundreds of thousands of defense-industry employees with access to secrets. For \$103,000, say prosecutors, William H. Bell, a radar engineer for the Hughes Aircraft Company in Los Angeles, sold

details of a quiet radar similar to that of the supersecret Stealth bomber, a new radar system for the Navy and a new sonar device to Polish spy Marian Zacharski. Bell, convicted of spying, is now serving eight years in prison.

For \$25,000, prosecutors charge, **STAT** Thomas Patrick Cavanagh, a defense engineer in Los Angeles, was ready to sell Stealth blueprints, manuals and drawings to the Soviets. He was arrested, authorities say, before the materials were compromised.

Doctored documents. Smuggling provides the Soviets with an even richer reward. Their export agents falsify the documents needed to circumvent restrictions on the export of sensitive technology. Some shipments, however, do slip through amid the 100,000 individual export licenses granted each year for high-technology transfers.

Examples are many. Federal prosecutors in California allege that a pair of high-tech traders, Vladimir Vesely and Walter Podolece, unlawfully exported approximately 5,000 sophisticated electronic tubes, among other items, without licenses. The equipment wound up in Eastern Europe.

Often, smugglers simply crate pieces of equipment for clandestine shipment to the East. The chief of a U.S. computer firm recently was charged with smuggling 36 unlicensed shipments of restricted desk-top computers valued at \$350,000 to East-bloc buyers in Europe.

Customs agents in Denver arrested an American and a Briton in 1983 as they tried to export to Moscow the seismograph system needed for measuring nuclear explosions, as well as a laser device for testing fiber optics and etching computer microchips. Another time, professional smugglers in California flew an entire computer system to Mexico City aboard a chartered airplane to rendezvous with a commercial airliner bound for Amsterdam and points East. Customs agents intercepted the shipment.

Where such efforts fail, the East bloc turns to foreign third parties who devise intricate schemes to divert legal exports of U.S. high technology to intermediate destinations and then on to the East. Fully 75 percent of illicit shipments of high technology are now thought to reach the Soviet Union this way.

"The game is diversions," says Customs Commissioner William von Raab, "much more so than ever before."

While the KGB's hand rarely shows directly in such cases, U.S. investigators insist that Soviet-bloc agents give mid-

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